

**INTEGRATED CIRCUIT COMPRISING A DAC WITH PROVISION FOR SETTING THE
DAC TO A CLEAR CONDITION, AND A METHOD FOR SETTING A DAC TO A CLEAR**

Cross-reference to Related Application(s).

5 **Field of the Invention** This application claims benefit U.S. Provisional Patent Application serial
No 60/431,908, filed December 09, 2002.

The present invention relates to an integrated circuit comprising a digital-to-
analogue converter (DAC) with provision for setting the DAC to a clear condition, and in
particular, though not limited to a multi-channel circuit comprising one DAC in each channel
with provision for setting the respective DACs to a clear condition. The invention also
10 relates to a method for setting a DAC in an integrated circuit to a clear condition.

Background to the Invention

Multi-channel integrated circuits comprising a DAC in each channel are known.
Typically, such multi-channel integrated circuits receive digital data which is to be
15 converted to analogue signals, and the respective analogue signals are outputted on
analogue output terminals of the respective channels corresponding to the DACs. An
interface and control logic circuit is provided in the integrated circuit for selectively
transferring the digital data to respective ones of the DACs for conversion thereof to
analogue output signals. In general, such circuits comprise a clear terminal to which a
20 clear signal is applied for setting the DACs to a clear condition. The interface and control
logic circuit reads the clear terminal, and on reception of a clear signal the interface and
control logic circuit sets the DACs to the clear condition. This requires setting the digital
words in DAC registers corresponding to the respective DACs to zero. Ideally, when the
DACs are set to the clear condition, the analogue voltage appearing on the output
25 terminals of the corresponding analogue channels should be a predetermined voltage, and
in general, with the digital words in the respective DAC registers set to zero, the analogue
output voltage appearing on the output terminals of the analogue channels should be zero
volts. However, due to voltage offsets in the DACs, and in the analogue parts of the
respective channels, the analogue output signals on the analogue output terminals, in
30 many cases, is not zero or other such predetermined voltage when the DACs are set in the
clear condition. This is undesirable.

There is therefore a need for an integrated circuit comprising a DAC with provision
for setting the DAC to a clear condition which overcomes this problem. There is also a
need for an integrated circuit with a plurality of channels having a DAC located in each
35 channel with provision for setting the respective DACs to a clear condition which